

REMARKS

Claims 18-27 were pending in the application. Claims 18 and 23 have been amended. No claims have been added or cancelled. Therefore, claims 18-27 remain pending and are resubmitted for consideration.

Claims 18 and 23 have been amended to include minor punctuation (commas). Thus, Applicants respectfully request the amendments to be entered.

Applicants appreciate the courtesy extended by Examiner Ronnie Mancho during the telephone interview on October 8, 2009.

Rejection under 35 U.S.C. § 112

Claims 18-27 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. Claims 18-27 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite.

Applicants have amended claims 18 and 23 to include commas to clarify that “(3) an absolute value of the future lateral displacement, immediately before the lane marking detection section cannot recognize or detect the lane marking line, is greater than or equal to a predetermined lateral displacement criterion.” Support for the claims may be found, among other places, on page 18, line 15 to page 19 line 5; and page 40, line 23 to page 41, line 24.

Applicants appreciate the indication from Examiner Mancho during the telephone interview that the claim amendments overcome the 35 U.S.C. § 112 rejections. Thus, Applicants respectfully request withdrawal of the 35 U.S.C. §112 rejections.

Rejection under 35 U.S.C. § 103 – Claims 18, 21, 23 & 26

Claims 18, 21, 23, and 26 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,913,375 (“Nishikawa”) in view of U.S. Patent No. 6,185,492 (“Kagawa”). Claims 18 and 23 are independent claims.

The rejection should be withdrawn for at least the following reasons.

Nishikawa and Kagawa, taken together or separately, fail to teach or suggest an automotive lane deviation prevention apparatus that comprises (as recited in claim 18 and similarly in claim 23), among other things:

wherein the vehicle yawing motion control section initiates the vehicle yawing motion control *when all following conditions occur*:
(1) when the host vehicle is traveling on predetermined road surface irregularities;
(2) while the lane marking detection section cannot recognize or detect the lane marking line; *and*
(3) an absolute value of the future lateral displacement, immediately before the lane marking detection section cannot recognize or detect the lane marking line, is greater than or equal to a predetermined lateral displacement criterion.

Nishikawa discloses a vehicle steering force correction system that includes a camera (10) for detecting the condition of the road. The Examiner states that Nishikawa can detect a lane marker, but fails to disclose that the lane markers can have irregularities. The Examiner refers to Kagawa for allegedly teaching the use of a camera to detect irregularities, such as grooves (60), in the road. Thus, the Examiner contends that Nishikawa in view of Kagawa teach vehicle yawing motion control being initiated when the host vehicle is traveling on predetermined road surface irregularities.

However, grooves (60) are not actual grooves or irregularities in the road. Everything in Figure 3 of Kagawa is virtual, wherein the virtual sphere (52) (which corresponds to a vehicle) moves on a virtual surface (50) of the road (42). Kagawa states that the “road 42 *actually has a flat surface* over the entire width.” Kagawa at col. 9, lines 48-49 (emphasis added). Furthermore, the virtual grooves (60) are clearly not predetermined road surface irregularities because in Kagawa, the virtual sphere (52) is intended to travel while engaged with one of the grooves (60). *See* Kagawa at col. 10, lines 10-17. Thus, the grooves (60) are a selected (i.e., chosen) target moving line, not an irregularity in the road near or at a lane marking line, which is not generally selected to be travel path line.

Furthermore, neither reference discloses initiating the vehicle yawing motion control when all of the claimed conditions occur. Nishikawa and Kagawa are both silent on yawing motion control section initiating yawing motion control when the lane marking detection

section cannot detect the lane marking line, and when the absolute value of the future lateral displacement, immediately before the lane marking detection section cannot recognize or detect the lane marking line, is greater than or equal to a predetermine lateral displacement criterion. Thus, the rejection under 35 U.S.C. § 103 is improper. Applicants respectfully request reconsideration and withdrawal of the rejection.

Claims 21 and 26 depend from claim 18 and claim 23, respectively, and are allowable therewith, for at least the reasons set forth above, without regard to the further patentable subject matter set forth in these dependent claims.

Rejection under 35 U.S.C. § 103 – Claims 22 & 27

Claims 22 and 27 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nishikawa in view of Kagawa and further in view of U.S. Patent No. 5,638,275 (“Sasaki”). Claims 22 and 27 depend from claims 18 and 23, respectively. The rejection should be withdrawn for at least the following reasons.

None of the references, taken together or separately, teach or suggest an automotive lane deviation prevention apparatus that comprises (as recited in claim 18 and similarly in claim 23), among other things:

wherein the vehicle yawing motion control section initiates the vehicle yawing motion control *when all following conditions occur*:
(1) when the host vehicle is traveling on predetermined road surface irregularities;
(2) while the lane marking detection section cannot recognize or detect the lane marking line; *and*
(3) an absolute value of the future lateral displacement, immediately before the lane marking detection section cannot recognize or detect the lane marking line, is greater than or equal to a predetermined lateral displacement criterion.

As stated above, both Nishikawa and Kagawa fail to disclose initiating yawing motion control when “the lane marking detection section cannot recognize or detect the lane marking line” and when “an absolute value of the future lateral displacement, immediately before the lane marking detection section cannot recognize or detect the lane marking line, is greater than or equal to a predetermined lateral displacement criterion.”

Sasaki fails to cure the deficiencies of Nishikawa in view of Kagawa. Even assuming for the sake of the argument that one of ordinary skill would have been motivated to modify Nishikawa (as modified by Kagawa) with the area except road-ways and inhibiting a check for the host vehicle traveling on predetermined road surface irregularities as allegedly taught by Sasaki, the resulting combination would still fail to teach or suggest an automotive lane deviation prevention apparatus that comprises, among other things:

wherein the vehicle yawing motion control section initiates the vehicle yawing motion control *when all following conditions occur*:
(1) when the host vehicle is traveling on predetermined road surface irregularities;
(2) while the lane marking detection section cannot recognize or detect the lane marking line; *and*
(3) an absolute value of the future lateral displacement, immediately before the lane marking detection section cannot recognize or detect the lane marking line, is greater than or equal to a predetermined lateral displacement criterion.

as recited in claim 18 (and similarly in claim 23). Therefore, the rejection of claims 22 and 27 under 35 U.S.C. § 103(a) is improper. Applicants respectfully request reconsideration and withdrawal of the rejection.

Rejection under 35 U.S.C. § 103 – Claims

Claims 19, 20, 24, and 25 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nishikawa in view of Kagawa and further in view of U.S. Patent No. 5,604,307 (“Lida”). Claims 19-20 depend from claim 18; and claims 24-25 depend from claim 23. The rejection should be withdrawn for at least the following reasons.

None of the references, taken together or separately, teach or suggest an automotive lane deviation prevention apparatus that comprises (as recited in claim 18 and similarly in claim 23), among other things:

wherein the vehicle yawing motion control section initiates the vehicle yawing motion control *when all following conditions occur*:
(1) when the host vehicle is traveling on predetermined road surface irregularities;
(2) while the lane marking detection section cannot recognize or detect the lane marking line; *and*

(3) an absolute value of the future lateral displacement, immediately before the lane marking detection section cannot recognize or detect the lane marking line, is greater than or equal to a predetermined lateral displacement criterion.

As stated above, both Nishikawa and Kagawa fail to disclose, at least, initiating yawing motion control when “the lane marking detection section cannot recognize or detect the lane marking line” and when “an absolute value of the future lateral displacement, immediately before the lane marking detection section cannot recognize or detect the lane marking line, is greater than or equal to a predetermined lateral displacement criterion” as recited in claim 18.

Lida fails to cure the deficiencies of Nishikawa in view of Kagawa. Even assuming for the sake of the argument that one of ordinary skill would have been motivated to modify Nishikawa (as modified by Kagawa) with the wheel speed sensors as allegedly taught by Lida, the resulting combination would still fail to teach or suggest an automotive lane deviation prevention apparatus that comprises, among other things:

wherein the vehicle yawing motion control section initiates the vehicle yawing motion control *when all following conditions occur*:
(1) when the host vehicle is traveling on predetermined road surface irregularities;
(2) while the lane marking detection section cannot recognize or detect the lane marking line; *and*
(3) an absolute value of the future lateral displacement, immediately before the lane marking detection section cannot recognize or detect the lane marking line, is greater than or equal to a predetermined lateral displacement criterion.

as recited in claim 18 (and similarly in claim 23). Therefore, the rejection of claims 19-20 and 24-25 under 35 U.S.C. § 103(a) is improper. Applicants respectfully request reconsideration and withdrawal of the rejection.

Conclusion

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application, as amended, is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing or a credit card payment form being unsigned, providing incorrect information resulting in a rejected credit card transaction, or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petition for such extension under 37 C.F.R. §1.136 and authorize payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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